



**CH2MHILL**

December 3, 2004

Mr. Enrique Manzanilla  
U.S. Environmental Protection Agency  
75 Hawthorne Street, CMD-4-2  
San Francisco, CA 94105

Subject: Application for Risk-based Disposal Approval for Polychlorinated Biphenyls at Building 842 UL#01 In Investigation Area C3 on the Eastern Early Transfer Parcel of Mare Island Where No Further Action is Required under the United States Environmental Protection Agency Consent Agreement and Final Order

Dear Mr. Manzanilla:

CH2M HILL prepared this letter in compliance with the Consent Agreement/Final Order (CA/FO) between United States Environmental Protection Agency (USEPA) and the United States Department of the Navy (Navy), with the City of Vallejo and Lennar Mare Island (LMI) as intervenors (USEPA et al. 2001). The CA/FO sets forth the polychlorinated biphenyl (PCB)-related requirements that must be met to satisfy the Toxic Substances Control Act (TSCA) for the Eastern Early Transfer Parcel of Mare Island.

Pursuant to Paragraph 6(a) of the CA/FO, this letter demonstrates that, under TSCA, a no further action (NFA) determination is appropriate with respect to PCB contamination as part of the overall regulatory closure process of the Eastern Early Transfer Parcel for Building 842 on the LMI property of Mare Island. This letter is submitted in compliance with Paragraph 12 of the CA/FO. An NFA determination is appropriate for the PCB site addressed in this letter based on a site-specific risk evaluation.

### **PCB Site Identification**

From conducting visual site surveys and review of historical records, building closure reports, and databases of electrical equipment, the Navy identified PCB sites where PCB-containing equipment was located, PCB spills were documented, or contamination was suspected because of building history or visible stains (Tetra Tech Environmental Management, Inc. [TtEMI] 1998). Navy personnel from Supervisor of Shipbuilding, Conversion and Repair, Portsmouth, Virginia, Environmental Detachment (SSPORTS) conducted interim PCB assessments and performed cleanup actions (e.g., washing, scabbling, and excavation) in accordance with Technical Work Documents, where necessary. Following the SSPORTS interim PCB assessments and any cleanup actions, TtEMI personnel collected confirmation samples either to confirm SSPORTS findings that no cleanup was necessary or to determine the effectiveness of the cleanup actions.

Building 842, an Electrical Distribution Center built in 1942, is located east of Dry Dock 3 in Investigation Area C3. The building is located in the EBS Parcel 05-K in an area for industrial land use, according to the *Preliminary Land Use Plan* (LMI 2000). According to CH2M HILL's site visit in September 2004, the building is a fenced outdoor area with no roof. Attachment A presents photographs of the site. Figure 1 shows the previous sample locations at Building 842 Unknown Location (UL)#01.

Building 842 currently has six transformers (Figure 1). T-1673 was installed in January 1986 and has a PCB level of 2 parts per million. T-1674 and T-1679 were installed January 1986 and have 0 part per million PCBs. T-1938 through T-1940 were installed in September 1990 and do not contain PCBs, according to manufacturer specifications. Building 842 formerly contained transformers T-1296 and T-1464, which were used between January 1943 and September 1990, and had PCB levels of 500 parts per million (Navy 1996).

PCBs were detected in 4 of 13 concrete samples collected from Building 842 UL#01 (Table 1), at concentrations ranging from 1.7 to 8.8 milligrams per kilogram (mg/kg). The other nine samples did not have PCBs detected above the laboratory reporting limit of 1 mg/kg. The average remaining total PCB concentration at Building 842 UL#01 (using all previous data and half of the reporting limit when PCBs were not detected) is 1.55 mg/kg. Because PCB concentrations greater than 1 mg/kg exist at this site (the CA/FO default substantive cleanup requirement for high-occupancy areas), we are submitting this risk-based application for site closure for PCB site Building 842 UL#01.

As required by 40 CFR 761.61(c), this Application for Risk-based Disposal Approval contains the information described in the Notification as required by 40 CFR 761.61(a)(3):

- Nature of contamination
- Sampling procedures and results
- Location and extent of contaminated area
- Cleanup plan
- Certification

The following sections provide the required information in each of these categories.

#### **Nature of Contamination ~ 40 CFR 761.61(a)(3)(i)(A)**

PCBs were detected in 4 of the 13 concrete samples collected from Building 842 UL#01 (Table 1), at concentrations ranging from 1.7 to 8.8 mg/kg. No cleanup actions have been performed at Building 842 UL#01.

#### **Sampling Procedures and Results ~ 40 CFR 761.61(a)(3)(i)(B)**

Table 1 provides a summary of the previous sampling at Building 842 UL#01. This table includes the sample numbers, matrix, sample date, and total PCB concentrations (the

laboratory reporting limit is provided when PCBs were not detected). Attachment B includes analytical data from the previous sampling event at this site.

During the inspection of Building 842 UL#01 no PCB-related problems were noted. However, because this electrical substation once contained transformers and switchgear with elevated levels of PCBs, concrete floor samples were collected during the interim PCB assessment. On May 12, 1997, SSPTS personnel collected 13 concrete samples within Building 842. PCBs were detected in 4 of the 13 samples, at concentrations ranging from 1.7 to 8.8 mg/kg (SSPTS 1997). The other nine samples did not have PCBs detected above the laboratory reporting limit of 1 mg/kg.

### **Location and Extent of Contaminated Area ~ 40 CFR 761.61(a)(3)(i)(C)**

PCBs were detected in 4 of the 13 concrete samples collected from Building 842 UL#01 (Table 1), at a maximum concentration of 8.8 mg/kg. Two samples collected adjacent to the location with the 8.8 mg/kg result had PCB concentrations of 2.2 and less than 1 mg/kg (non-detect). Similarly, the locations with detections of 2.9 and 1.7 mg/kg have adjacent sample locations where PCBs were not detected above the laboratory reporting limit of 1 mg/kg. When using all of the previous concrete data (with half of the reporting limit for the non-detect samples), the average PCB concentration at Building 842 is 1.55 mg/kg.

### **Cleanup Plan ~ 40 CFR 761.61(a)(3)(i)(D)**

The *Final Polychlorinated Biphenyl Work Plan* (CH2M HILL 2003a) describes the process for PCB site closure under TSCA in accordance with the CA/FO. In compliance with this process, Figure 2 provides a flowchart illustrating the PCB site closure process for Building 842 UL#01. No cleanup action is necessary at this site based on results of a site-specific risk evaluation.

The exposure point concentration (EPC) (95 percent upper confidence limit for the mean) for the total PCB concentrations at Building 842 UL#01 is 5 mg/kg using bootstrap-t methodology (USEPA 2003). Based on this value, the estimated potential cumulative cancer risk for PCBs in an industrial setting at Building 842 UL#01 is  $7 \times 10^{-6}$  (EPC for total PCBs divided by the preliminary remediation goal (PRG) for cancer effects times  $10^6 = [5/0.74] \times 10^6$ ), and the hazard index is less than 1 (EPC for Aroclor-1260 divided by the PRG for non-cancer effects =  $5/11 = 0.45$ ).

This methodology for estimating potential risks associated with exposure to PCBs in concrete most likely results in an overestimate of potential risks. The PRG used for comparison is based on soil exposure and includes the inhalation, dermal contact, and ingestion exposure routes. For each one of these routes, the exposure assumptions for intake of PCBs in soil probably overestimate intake of PCBs in concrete for the following reasons:

1. Inhalation – Fine particles containing PCBs are not as readily available for resuspension from asphalt/concrete as from soil.

2. Dermal Contact – PCBs in concrete are located on floors where regular dermal contact is not anticipated; fine concrete particles are not as available as fine soil particles for adherence to skin resulting in dermal absorption; and fine particles of concrete are less likely to adhere to skin as soil particles.
3. Ingestion – Fine particles are not as available from concrete as soil for hand to mouth contact resulting in incidental ingestion of PCBs.

### **Certification ~ 40 CFR 761.61(a)(3)(i)(E)**

Project files for Building 842 UL#01 are located in the CH2M HILL Office in Oakland, California. This office is located at 155 Grand Avenue, Suite 1000. Attachment C contains the written certification, signed by LMI (the owner of the property where the cleanup site is located) and CH2M HILL (the party conducting the cleanup), documenting that all sampling plans and procedures used to assess or characterize the PCB contamination at the cleanup site are on file at the above-mentioned location and are available for USEPA inspection.

### **Conclusions**

The concrete floor at Building 842 UL#01 was sampled in May 1997. PCBs were not detected above concentrations of 1 mg/kg in 9 of the 13 samples from the floor of Building 842. The average PCB concentration in the samples collected from Building 842 UL#01 (using all previous data and half of the reporting limit when PCBs were not detected) is 1.55 mg/kg. The maximum PCB concentration detected was 8.8 mg/kg. Because this PCB concentration exceeds the CA/FO default substantive cleanup requirement of 1 mg/kg for high-occupancy areas, a site-specific risk evaluation was conducted for this site. The risk evaluation of the concrete samples concludes that the estimated potential cumulative cancer risk for PCBs in an industrial setting at Building 842 UL#01 is  $7 \times 10^{-6}$ . Consequently, we are requesting that USEPA issue an NFA determination for Building 842 UL#01 under TSCA.

These site-specific risk evaluation results demonstrate that potential cancer risks associated with exposure to residual PCBs at Building 842 UL#01 are at the lower end of the risk-management range generally used to determine if additional cleanup is necessary ( $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ ). In addition, the non-cancer risk hazard index is less than 1 (0.45). Based on the risk evaluation results and the conservative nature of the assumptions used in the risk calculations for this paved area, no cleanup actions for PCBs in building materials are necessary at Building 842 UL#01. The conditions for USEPA closure of PCB sites have been met for this site (Figure 2).

Please respond to this letter with confirmation that, in accordance with the approved *Final Polychlorinated Biphenyl Work Plan* (CH2M HILL 2003a) and the CA/FO (USEPA et al. 2001), under TSCA, NFA is appropriate for PCB sites at Building 842 UL#01. Please submit your approval of NFA for this site to me at the above address or via e-mail at

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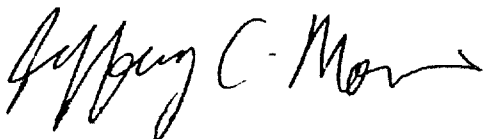
[jmorris1@ch2m.com](mailto:jmorris1@ch2m.com). If you have any questions regarding the site addressed in this letter, please contact Carla Duncan at 775/329-7238, extension 220.

## References

- CH2M HILL. 2003a. *Final Polychlorinated Biphenyl Work Plan*. March 7.
- CH2M HILL. 2003b. Letter. "Notification Regarding Self-implementing On-site Cleanup and Disposal of Polychlorinated Biphenyl Remediation Waste in the former Transformer Room Inside Building 521 Within Investigation Area D1, Eastern Early Transfer Parcel, Mare Island, Vallejo, California." November 17.
- Lennar Mare Island (LMI). 2000. *Preliminary Land Use Plan*. May 23.
- Supervisor of Shipbuilding, Conversion, and Repair, Portsmouth, Virginia, Environmental Detachment (SSPORTS). 1997. *Interim Polychlorinated Biphenyl (PCB) Assessment for Zone 5 PWC Properties*. August 22.
- Tetra Tech Environmental Management, Inc. (TtEMI). 1998. *Final Basewide Polychlorinated Biphenyl Confirmation Sampling Summary Report*. February 13.
- United States Department of the Navy (Navy). 1996. *PCB Transformers*. Table from the Caretaker Site Office. November 5.
- United States Environmental Protection Agency (USEPA). 2003. *ProUCL User's Guide*. February.
- United States Environmental Protection Agency (USEPA), United States Department of the Navy (Navy), the City of Vallejo, and Lennar Mare Island (LMI). 2001. *Complaint/Consent Agreement and Final Order between Lennar Mare Island, the City of Vallejo, the U.S. Department of the Navy, and the U.S. Environmental Protection Agency Region IX*. EPA Docket No. TSCA-9-2002-0002. December 20.

Sincerely,

CH2M HILL



Jeffery C. Morris, PE

Enclosures: Table 1, Figures 1 and 2, Attachments A, B, and C

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**TABLE 1**

Sample Results for Building 842 UL#01

*Investigation Area C3, Lennar Mare Island, Vallejo, California*

PCB Site Name	Site Description	Sample Number	Sample Matrix	Sample Date	Total PCB Concentration	Comments
Building 842 UL#01	Electrical Distribution Center	7125-0037	Concrete	05/12/97	ND (< 1 mg/kg)	
		7125-0038	Concrete	05/12/97	ND (< 1 mg/kg)	
		7125-0039	Concrete	05/12/97	ND (< 1 mg/kg)	
		7125-0040	Concrete	05/12/97	8.8 mg/kg	
		7125-0041	Concrete	05/12/97	ND (< 1 mg/kg)	
		7125-0042	Concrete	05/12/97	2.2 mg/kg	
		7125-0043	Concrete	05/12/97	1.7 mg/kg	
		7125-0044	Concrete	05/12/97	ND (< 1 mg/kg)	
		7125-0045	Concrete	05/12/97	ND (< 1 mg/kg)	
		7125-0046	Concrete	05/12/97	ND (< 1 mg/kg)	
		7125-0047	Concrete	05/12/97	ND (< 1 mg/kg)	
		7125-0048	Concrete	05/12/97	2.9 mg/kg	
		7125-0049	Concrete	05/12/97	ND (< 1 mg/kg)	
		7125-0049	Concrete	05/12/97	ND (< 1 mg/kg)	

mg/kg = milligrams per kilogram

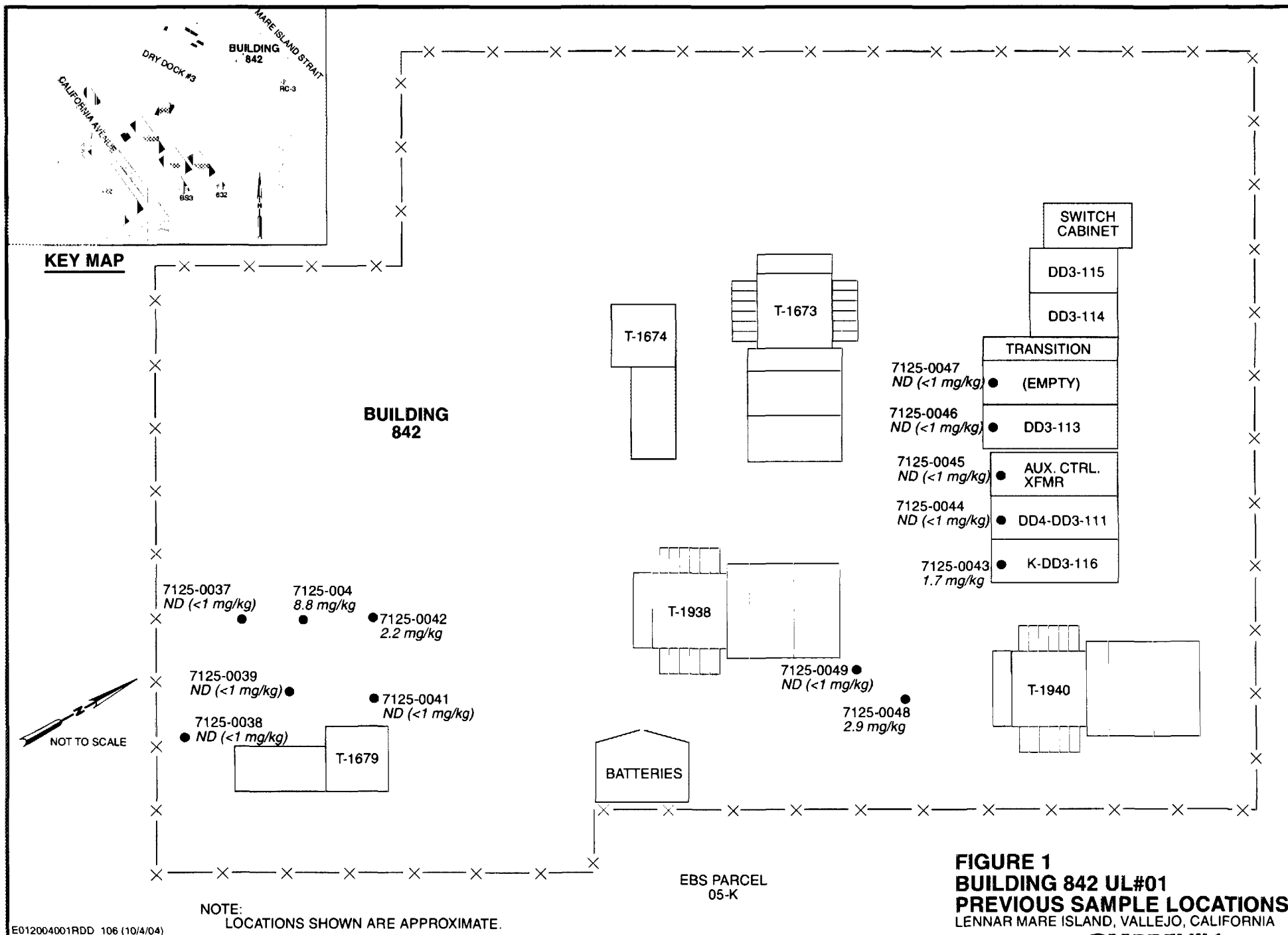
ND = not detected above the laboratory reporting limit

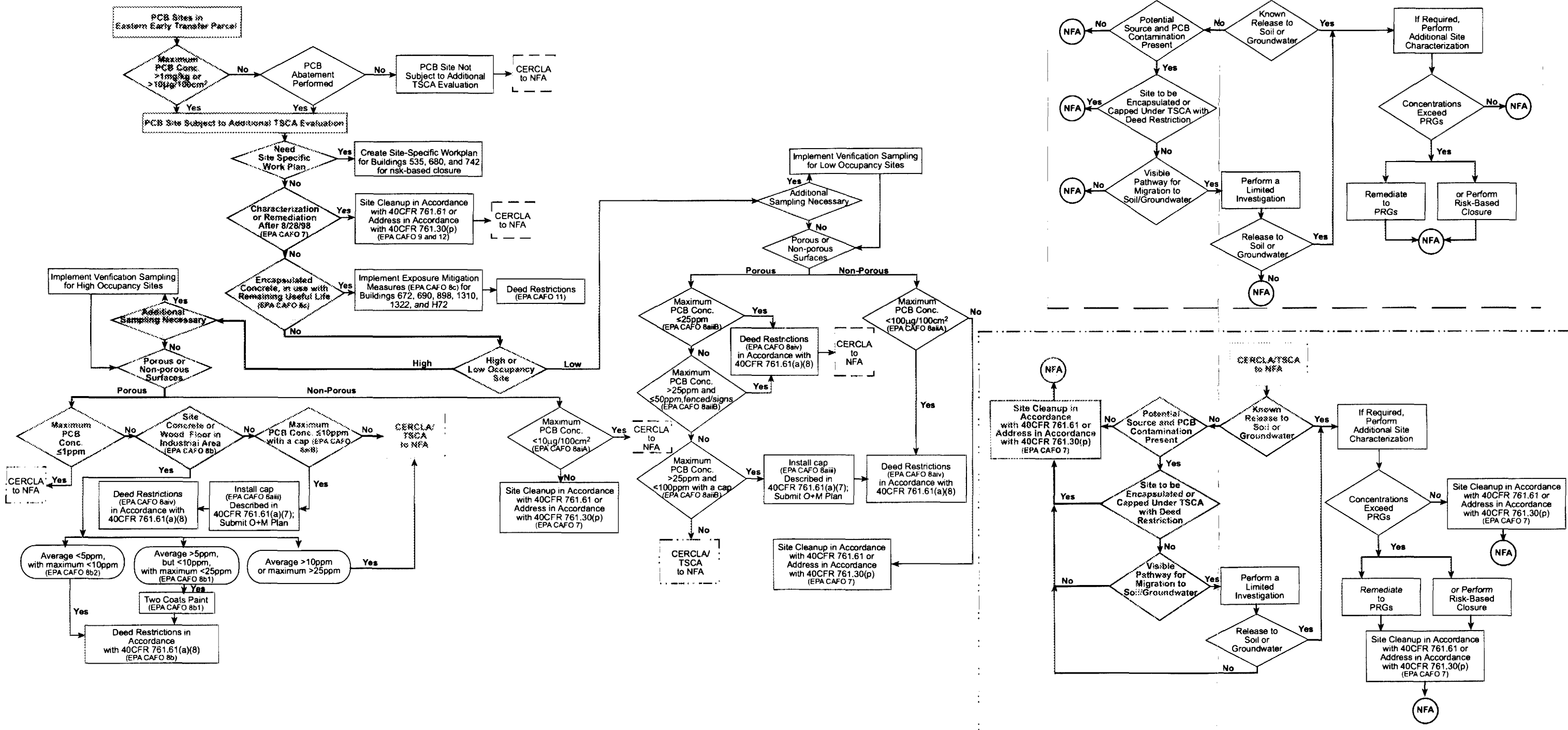
UL = Unknown Location



Insert Figure 1 – Site Location Map of Building 842 UL#01

Insert Figure 2 – Path for PCB Site Closure, Building 842 UL#01





Notes: EPA CAFO # = EPA Consent Agreement and Final Order paragraph number  
 NFA = No further action  
 O+M = Operations and Maintenance

**FIGURE 2**  
**PATH FOR PCB SITE CLOSURE**  
**AT BUILDING 842 UL#01**  
 LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

**Attachment A**  
**Building 842 UL#01 – Photographs**



Photo 1. Building 842 UL#01, IA C3



Photo 2. Building 842 UL#01 looking east



Photo 3. Building 842 UL#01 looking south

**Attachment B**  
**Building 842 UL#01 – Analytical Data**

Client Name:	Mare Island Naval Shipyard	Date Collected:	05/12/97
Project ID:	Contract No. N00244-96-D-2009	Date Received:	05/16/97
Work Order Number:	97-05-204	Date Prepared:	05/16/97
QC Batch ID:	970516sn2	Date Analyzed:	05/17/97
Matrix:	Solid		
Preparation:	EPA 3550A		
Method:	EPA 8081		

Client Sample Number: 7125-0037 (05-K/bldg.842,sta.zone 5-sam.pt.#27)  
Lab Sample Number: 97-05-204-1

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>Qualifiers</u>	<u>Units</u>
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	ND	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	106	50-130	
2,4,5,6-Tetrachloro-m-Xylene	79	50-130	



Client Name: Mare Island Naval Shipyard  
Project ID: Contract No. N00244-96-D-2009  
Work Order Number: 97-05-204  
QC Batch ID: 970516sn2  
Matrix: Solid  
Preparation: EPA 3550A  
Method: EPA 8081  
Date Collected: 05/12/97  
Date Received: 05/16/97  
Date Prepared: 05/16/97  
Date Analyzed: 05/17/97

Client Sample Number: 7125-0038 (05-K/bldg.842,sta.zone 5-sam.pt.#28)  
Lab Sample Number: 97-05-204-2

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>Qualifiers</u>	<u>Units</u>
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	ND	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	106	50-130	
2,4,5,6-Tetrachloro-m-Xylene	93	50-130	

Client Name: Mare Island Naval Shipyard  
Project ID: Contract No. N00244-96-D-2009  
Work Order Number: 97-05-204  
QC Batch ID: 970516sn2  
Matrix: Solid  
Preparation: EPA 3550A  
Method: EPA 8081

Date Collected: 05/12/97  
Date Received: 05/16/97  
Date Prepared: 05/16/97  
Date Analyzed: 05/17/97

Client Sample Number: 7125-0039 (05-K/bldg.842,sta.zone 5-sam.pt.#29)  
Lab Sample Number: 97-05-204-3

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>Qualifiers</u>	<u>Units</u>
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	ND	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	110	50-130	
2,4,5,6-Tetrachloro-m-Xylene	99	50-130	

Client Name: Mare Island Naval Shipyard  
Project ID: Contract No. N00244-96-D-2009  
Work Order Number: 97-05-204  
QC Batch ID: 970516sn2  
Matrix: Solid  
Preparation: EPA 3650A  
Method: EPA 8081

Date Collected: 05/12/97  
Date Received: 05/16/97  
Date Prepared: 05/16/97  
Date Analyzed: 05/17/97

Client Sample Number: 7125-0040 (05-K/bldg.842,sta.zone 5-sam.pt.#30)  
Lab Sample Number: 97-05-204-4

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>Qualifiers</u>	<u>Units</u>
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	8800	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	113	50-130	
2,4,5,6-Tetrachloro-m-Xylene	76	50-130	

Client Name: Mare Island Naval Shipyard  
Project ID: Contract No. N00244-98-D-2009  
Work Order Number: 97-05-204  
QC Batch ID: 970516sn2  
Matrix: Solid  
Preparation: EPA 3550A  
Method: EPA 8081  
Date Collected: 05/12/97  
Date Received: 05/16/97  
Date Prepared: 05/16/97  
Date Analyzed: 05/18/97

Client Sample Number: 7125-0041 (05-K/bldg.842,sta.zone 5-sam.pt.#31)  
Lab Sample Number: 97-05-204-5

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>Qualifiers</u>	<u>Units</u>
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	ND	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	71	50-130	
2,4,5,6-Tetrachloro-m-Xylene	90	50-130	

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Client Name: Mare Island Naval Shipyard  
Project ID: Contract No. N00244-96-D-2009  
Work Order Number: 97-05-204  
QC Batch ID: 970616sn2  
Matrix: Solid  
Preparation: EPA 3550A  
Method: EPA 8081

Date Collected: 05/12/97  
Date Received: 05/16/97  
Date Prepared: 05/16/97  
Date Analyzed: 05/16/97

Client Sample Number: 7125-0042 (05-K/bldg.842,sta.zone 5-sam.pt.#32)  
Lab Sample Number: 97-05-204-6

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>Qualifiers</u>	<u>Units</u>
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	2200	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	90	50-130	
2,4,5,6-Tetrachloro-m-Xylene	71	50-130	

Client Name: Mare Island Naval Shipyard  
Project ID: Contract No. N00244-96-D-2009  
Work Order Number: 97-05-204  
QC Batch ID: 970516sn2  
Matrix: Solid  
Preparation: EPA 3550A  
Method: EPA 8081  
Date Collected: 05/12/97  
Date Received: 05/18/97  
Date Prepared: 05/18/97  
Date Analyzed: 05/18/97

Client Sample Number: 7125-0043 (05-K/bldg.842,sta.zone 5-sam.pt.#35)  
Lab Sample Number: 97-05-204-7

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>Qualifiers</u>	<u>Units</u>
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	1700	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	83	50-130	
2,4,5,6-Tetrachloro-m-Xylene	90	50-130	

Client Name:	Mare Island Naval Shipyard	Date Collected:	05/12/97
Project ID:	Contract No. N00244-96-D-2009	Date Received:	05/16/97
Work Order Number:	97-05-204	Date Prepared:	05/16/97
QC Batch ID:	970516sn2	Date Analyzed:	05/18/97
Matrix:	Solid		
Preparation:	EPA 3550A		
Method:	EPA 8081		

Client Sample Number: 7125-0044 (05-K/bldg.842,sta.zone 5-sam.pt.#36)  
Lab Sample Number: 97-05-204-8

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>Qualifiers</u>	<u>Units</u>
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	ND	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	90	50-130	
2,4,5,6-Tetrachloro-m-Xylene	93	50-130	

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Client Name:	Mare Island Naval Shipyard	Date Collected:	05/12/97
Project ID:	Contract No. N00244-96-D-2009	Date Received:	05/18/97
Work Order Number:	97-05-204	Date Prepared:	05/16/97
QC Batch ID:	970516sn2	Date Analyzed:	05/18/97
Matrix:	Solid		
Preparation:	EPA 3550A		
Method:	EPA 8081		

Client Sample Number: 7125-0045 (06-K/bldg.842,sta.zone 5-sam.pt.#37)  
Lab Sample Number: 97-05-204-9

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>Qualifiers</u>	<u>Units</u>
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	ND	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	96	50-130	
2,4,5,6-Tetrachloro-m-Xylene	100	50-130	

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Client Name:	Mare Island Naval Shipyard	Date Collected:	05/12/97
Project ID:	Contract No. N00244-96-D-2008	Date Received:	05/16/97
Work Order Number:	97-05-204	Date Prepared:	05/16/97
QC Batch ID:	970516sn2	Date Analyzed:	05/18/97
Matrix:	Solid		
Preparation:	EPA 3550A		
Method:	EPA 8081		

Client Sample Number: 7125-0046 (05-K/bldg.842,sta.zone 5-sam.pt.#38)  
Lab Sample Number: 97-05-204-10

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>Qualifiers</u>	<u>Units</u>
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	ND	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qualifiers</u>
Decachlorobiphenyl	94	50-130	
2,4,5,6-Tetrachloro-m-Xylene	97	50-130	

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## ANALYTICAL REPORT

EPA 8081 PCBs Only



Client Name: Mare Island Naval Shipyard  
 Project ID: Contract No. N00244-96-D-2009  
 Work Order Number: 97-05-204  
 QC Batch ID: 970516sn2  
 Matrix: Solid  
 Preparation: EPA 3550A  
 Method: EPA 8081

Date Collected: 05/12/97  
 Date Received: 05/16/97  
 Date Prepared: 05/16/97  
 Date Analyzed: 05/16/97

Client Sample Number: 7125-0047 (05-K/bldg.842,sta.zone 5-sam.pt.#39)  
 Lab Sample Number: 97-05-204-11

Parameter	Result	RL	Qualifiers	Units
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	ND	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

Surrogates:	REC (%)	Control Limits	Qualifiers
Decachlorobiphenyl	93	50-130	
2,4,6,8-Tetrachloro-m-Xylene	97	50-130	

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## ANALYTICAL REPORT

EPA 8081 PCBs Only



Client Name: Mare Island Naval Shipyard  
 Project ID: Contract No. N00244-96-D-2009  
 Work Order Number: 97-05-204  
 QC Batch ID: 970516sn2  
 Matrix: Solid  
 Preparation: EPA 3550A  
 Method: EPA 8081

Date Collected: 05/12/97  
 Date Received: 05/16/97  
 Date Prepared: 05/16/97  
 Date Analyzed: 05/18/97

Client Sample Number: 7125-0048 (05-K/bldg.842,sta.zone 5-sam.pt.#33)  
 Lab Sample Number: 97-05-204-12

Parameter	Result	RL	Qualifiers	Units
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	2900	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

Surrogates:	REC (%)	Control Limits	Qualifiers
Decachlorobiphenyl	93	50-130	
2,4,5,6-Tetrachloro-m-Xylene	98	50-130	

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Client Name:	Mare Island Naval Shipyard	Date Collected:	05/12/97
Project ID:	Contract No. N00244-96-D-2009	Date Received:	05/16/97
Work Order Number:	97-05-204	Date Prepared:	05/16/97
QC Batch ID:	970516sn2	Date Analyzed:	05/18/97
Matrix:	Solid		
Preparation:	EPA 3550A		
Method:	EPA 8081		

Client Sample Number: 7125-0049 (05-K/bldg.842,sta.zone 5-sam.pt.#34)  
 Lab Sample Number: 97-05-204-13

Parameter	Result	RL	Qualifiers	Units
Aroclor-1016	ND	1000		ug/kg
Aroclor-1221	ND	1000		ug/kg
Aroclor-1232	ND	1000		ug/kg
Aroclor-1242	ND	1000		ug/kg
Aroclor-1248	ND	1000		ug/kg
Aroclor-1254	ND	1000		ug/kg
Aroclor-1260	ND	1000		ug/kg
Aroclor-1262	ND	1000		ug/kg

Surrogates:	REC (%)	Control Limits	Qualifiers
Decachlorobiphenyl	95	50-130	
2,4,6-Tetrachloro-m-Xylene	100	50-130	

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## **Attachment C Certification**

ATTACHMENT C

## Certification

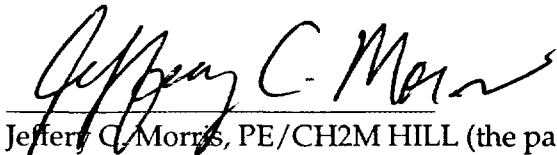
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All sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the polychlorinated biphenyl contamination at Building 842 Unknown Location #01 are on file at the CH2M HILL office, located at 155 Grand Avenue in Oakland, California. These files are available for United States Environmental Protection Agency inspection.

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate, and complete.



Joshua Sternberg, Lennar Mare Island (the owner of the property where the cleanup site is located)



Jeffrey C. Morris, PE/CH2M HILL (the party conducting the cleanup)